

BOOK REVIEW

ALLAN E. BESSETTE, DAVID B. HARRIS, AND ARLEEN R. BESSETTE. 2009. **Milk Mushrooms of North America: A Field Identification Guide to the Genus *Lactarius***. (ISBN 978-0-8156-3229-0, hbk., alk. paper). Syracuse University Press, 621 Skytop Road, Suite 110, Syracuse, New York 13244-5290, U.S.A. (Orders: supress@syr.edu, 1-800-848-6224, 315-443-5545 fax). \$110.00, 256 pp., 263 color illustrations, glossary, index, 7" × 10".

The authors have published mushroom books in the past and the organization, layout, color images, and descriptions are outstanding and illustrate the exceptional quality of the text. This book will appeal to a broad spectrum of mycophiles. The bright red hardback cover will be conspicuous in the field, but the larger-sized format also removes the book from the more conveniently hand-carried pocket-sized version. Fortunately the binding ensures a sturdy book that will stand the test of time and the wear and tear of fieldwork.

The genus *Lactarius*, also commonly called milk mushrooms because of lactifers that produce milky exudates of different colors when gills are bruised, has more than 200 species in North America and is widespread ectomycorrhizal in mostly forested areas. There are some highly prized edibles in this genus such as *Lactarius deliciosus* and *L. volemus*, but the majority of the species considered fall in the "unknown edibility" category. Although there is a clear warning about the dangers of eating mushrooms in the front of the book, this genus does not have the deadly poisonous toxins found in some other gilled-fungi such as the genus *Amanita*.

Most of the macro-morphological characters are discussed in the introduction such as size, shape, color, and characteristics of the cap, stalk, gills, odor (sometimes quite distinctive), taste, spore deposit color, habitat, and macrochemical tests. The color of the latex along with color changes over time when the latex stains the gills are also important key macro characteristics. Microscopic characteristics include descriptions of spore size and ornamentation (five scanning electron micrographs show the variety of spore ornamentation), spores amyloid or nonamyloid, cap cuticle, and cystidia.

Descriptions for 227 species and varieties are given along with a series of keys that are organized by regions. There is a "Regional Key to *Lactarius* Species and Their Relatives" that divides major groups into eastern and western species. The dichotomous diagnostic keys are based on macro-morphological characteristics that should facilitate use by beginners. The key couplets are nonreversible so that in longer keys (nine pages and 47 couplets) it is more difficult to follow through all of the choices especially when ending with three or four choices. However, some taxa are double-keyed, increasing the chance of correct identification as the reader is directed to the species or variety. The page number along with the species name aids in quickly locating the species in the text.

Pages 54 to 139 have three high quality color images per page (2 3/4" × 4 3/8") that show the top and side views of caps, gills, and stalks. "Species and Varieties: Descriptions" (pp. 141–274) are organized as follows: cap, gills, stalk, flesh, latex, spore deposit, microscopic characters, occurrence, edibility, and comments. There is a section on "Genera and Species Related to *Lactarius*" that includes the underground genus *Zelleromyces*, the pore bearing *Bondarzewia*, and *Arcangeliella*.

A special section titled "Hyperparasites of the Genus *Lactarius*" features the Lobster Mushroom, *Hypomyces lactifluorum*, which is a choice edible. The bright reddish orange coloration is actually an ascomycetous parasite of the genus *Hypomyces* that attacks and covers the surface area of a deformed *Lactarius* species.

The book ends with a "Glossary of Terms" (pp. 279–282), "References" (pp. 285–287), and "Index to Common and Scientific Names" (pp. 289–294). Mycologists doing fieldwork on fleshy macrofungi will find this book useful since species of *Lactarius* are frequently encountered throughout the summer growing season.—Harold W. Keller, Research Associate, Botanical Research Institute of Texas, 500 E. 4th Street, Fort Worth, Texas 76102-4025, U.S.A.